

REPORT  
OF THE  
CANADIAN ARCTIC EXPEDITION  
1913-18

VOLUME VIII: MOLLUSKS, ECHINODERMS,  
COELENTERATES, ETC.

PART C: ECHINODERMS

By AUSTIN H. CLARK



G  
670  
1913 C2  
V. 8, Pt C  
c. 3

OTTAWA  
J. de LABROQUERIE TACHÉ  
PRINTED AT THE KING'S MOST EXCELLENT MAJESTY  
1920

Issued April 6, 1920

G  
670  
1913  
C2t  
v. 008  
pt. C  
c. 3

# Report of the Canadian Arctic Expedition, 1913-18.

## VOLUME VIII: MOLLUSKS, ECHINODERMS, COELENTERATES, ETC.

- Part A: MOLLUSKS, RECENT AND PLEISTOCENE. By Wm. H. Dall.....(*Issued*).  
Part B: CEPHALOPODA AND PTEROPODA. By S. S. Berry and W. F. Clapp.....(*In preparation*).  
Part C: ECHINODERMS. By Austin H. Clark.....(*In press*).  
Part D: BRYOZOA. By R. C. Osburn.....(*In preparation*).  
Part E: ROTATORIA. By H. K. Harring.....(*In preparation*).  
Part F: CHAETOGNATHA. By A. G. Huntsman.....(*In preparation*).  
Part H: MEDUSAE AND CTENOPHORA. By H. B. Bigelow.....(*In press*).  
Part I: HYDROIDS. By McLean Fraser.....(*In preparation*).  
(PORIFERA, ACTINOZOA, and ALCYONARIA: material small in amount, and no  
specialists selected).

REPORT  
OF THE  
CANADIAN ARCTIC EXPEDITION  
1913-18

VOLUME VIII: MOLLUSKS, ECHINODERMS,  
COELENTERATES, ETC.

PART C: ECHINODERMS

By AUSTIN H. CLARK



OTTAWA  
J. de LABROQUERIE TACHÉ  
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY

1920

G 670. 1913 236 v. 3 p. 2 13

# The Echinoderms of the Canadian Arctic Expedition. 1913-18.

By AUSTIN H. CLARK.

The Canadian Arctic Expedition brought back two thousand and twenty-four Echinoderms, representing a total of twenty species, the names of which follow :—

## ECHINOIDEA.

*Echinarachnius parma*

*Strongylocentrotus dröbachiensis*

## HOLOTHURON.

*Myriotrochus rinkii*

## OPHIUROIDEA.

*Stegophiura nodosa*

*Ophiocten sericeum*

*Ophiozea robusta*

*Amphiodia craterodonta*

## ASTEROIDEA.

*Ctenodiscus crispatus*

*Asterias nortonensis*

*Crossaster papposus*

*Ctenasterias cribraria*

*Urasterias linkii*

*Stenasterias macropora*

*Asterias polythela*

*Leptasterias arctica*

*Asterias acervata borealis*

*Leptasterias (?) dispar*

*Asterias anomala*

*Leptasterias epichlora*

*Leptasterias*, sp.

Of these the following ten were met with in the Arctic ocean only :—

*Myriotrochus rinkii*

*Urasterias linkii*

*Ophiozea robusta*

*Asterias acervata borealis*

*Ophiocten sericeum*

*Ctenasterias cribraria*

*Ctenodiscus crispatus*

*Leptasterias arctica*

*Crossaster papposus*

*Leptasterias (?) dispar*

the following seven were found only in Behring sea :—

*Echinarachnius parma*

*Asterias anomala*

*Amphiodia craterodonta*

*Asterias nortonensis*

*Asterias polythela*

*Stenasterias macropora*

*Leptasterias epichlora*

and the following two were collected both in the Behring sea and in the Arctic ocean :—

*Strongylocentrotus dröbachiensis*

*Stegophiura nodosa*

Of the Echinoderms found in the region of Coronation gulf, the following five occur both in the north Atlantic and in the Behring sea :—

*Myriotrochus rinkii*

*Ctenodiscus crispatus*

*Ophiozona robusta*

*Crossaster papposus*

*Ctenasterias cribraria*

the following three are inhabitants of the north Atlantic and Arctic only :—

*Ophiocten sericeum*

*Urosterias linkii*

*Asterias acerrata borealis*

one, so far as known, inhabits part of the Arctic ocean and the coast of Kamchatka :—

*Leptasterias arctica*

and one part of the Arctic ocean and the Aleutian islands :—

*Leptasterias (?) dispar*

but the last two are very imperfectly known, and the last is quite likely eventually to prove to be nothing but the young of *Asterias acerrata*.

Thus the affinities of the fauna of the Coronation gulf region are clearly with the fauna of the regions to the eastward, and the material brought back resembles very closely collections at hand from the Hudson bay region and northwestern Greenland.

Excepting where otherwise stated the specimens were collected by Mr. Frits Johansen, naturalist on the expedition.

## ECHINODERMA HETERORADIATA.

### Class ECHINOIDEA.

#### Order CLYPEASTRINA.

#### Family SCUTELLIDÆ.

#### *Echinarachnius parma* (Lamarek)

Station 16c. Off Kuskokwim bay, Alaska (59° 24' N., 165° 11' W.); 12½–13 fathoms; black sand; July 5, 1913.  
Fragments, embedded in clay.

#### Order CENTRECHINOIDA.

##### SUBORDER CAMARODONTA.

#### Family STRONGYLOCENTROTIDÆ.

#### *Strongylocentrotus dröbachiensis* (O. F. Müller)

Station 20, b and c. Grantley harbour, Alaska; 2–3 fathoms; sandy mud, with algæ; July 30, 1913.

Twelve specimens, the largest 23 mm. in horizontal diameter, and 11 mm. high. The colour of the tests is purple, that of the spines rather light green; three have the longer spines dull reddish.

Station 20g. Port Clarence, Alaska; 2-3 fathoms; sandy grey mud, with algæ (thread algæ, *Laminaria*, etc.); August 4, 1913.

Three specimens, ranging in size from 65 mm. in horizontal diameter and 31 mm. in height to 7 mm. in horizontal diameter and 3 mm. in height. The test and tube feet are dull purplish, the spines dull olive, beneath becoming tinged with dull purplish in the distal half. Mr. Johansen notes that of the specimens collected at this station only the extremes in size were kept.

Station 20m. Beach at Port Clarence, Alaska; August, 1913.

One specimen, measuring 20 mm. by 10 mm.

Station 37p. Beach at Bernard harbour, Northwest Territories; October, 1914.

One specimen, measuring 47 mm. by 24 mm.

Station 41. Outer harbour, Bernard harbour, Northwest Territories; 10 metres; sandy mud with *Laminaria* and *Delesseria*; bottom temperature 32° .5 Fahrenheit; July 20, 1915.

One specimen, measuring 37 mm. by 18 mm.

Station 43c. West of Cockburn point, Dolphin and Union strait, Northwest Territories; 20-30 metres; grey mud with many stones and algæ (*Laminaria*, *Delesseria*, and *Lithothamnion*); September 14, 1915.

Ninety-four specimens, of which the largest is 53 mm. by 28 mm. These are very dark in colour, deep dull purple, lighter and brighter beneath, the spines above usually dark olive, sometimes deep dull purple, below dark purple distally, becoming gradually olive in the proximal half or two-thirds, and often with a broad subterminal dusky band.

Station 44c. Beach at cape Barrow, Coronation gulf, Northwest Territories; August 3, 1915. J. J. O'Neill collector.

Five specimens, the largest measuring 49 mm. by 23 mm.

Station 44e. Kannuyuk island, Bathurst inlet, Coronation gulf, Northwest Territories; 1 fathom; September 2, 1915. R. M. Anderson, collector.

One specimen, measuring 46 mm. in horizontal diameter. The colour is purple, with green spines.

## Class HOLOTHUROIDEA.

### Order PARACTINOPODA.

### Family SYNAPTIDÆ.

#### Subfamily MYRIOTROCHINÆ.

### *Myriotrochus rinkii* Steenstrup

Station 37e. Inner harbour at Bernard harbour, Northwest Territories; about 2 fathoms; sandy mud with algæ; September 1, 1914.

One specimen.

Station 41. Outer harbour at Bernard harbour, Northwest Territories; about 5 fathoms; sandy mud and *Laminariæ*; July 20, 1915.

Six specimens.

Station 41c. Outer harbour at Bernard harbour, Northwest Territories; 3-8 fathoms; grey mud with *Laminaria* and *Delesseria*; July 28, 1915.

Thirty-nine specimens.

Station 43a. Off Cockburn point, Dolphin and Union strait; about 50 fathoms; sandy mud with pebbles, and no algæ; September 13, 1915.

Three specimens.

Mr. Johansen writes that from the results of the investigations at Stations 37e, 41, 41c, and 43a it appears that *Myriotrochus rinkii*, the only holothurian

collected, is a very characteristic and common invertebrate in about 5 fathoms of water on a bottom of sandy mud in the vicinity of Bernard harbour, Dolphin and Union strait. There is here a rich algal flora consisting of *Laminaria* and other Fucoideæ, *Delesseria* and other Florideæ, green-thread algæ, etc., constituting a *Laminaria* zone, and the dominating dark-brown colour of the algæ influences the colour of the holothurians, some of which are dorsally, or even entirely, dark brown instead of the normal and typical transparent flesh-colour.

Many of the specimens collected contained well-developed embryos.

## ECHINODERMA ASTORADIATA.

### Class OPHIUROIDEA.

#### Order CHILOPHIURIDA.

#### Family OPHIOLEPIDIDÆ.

#### *Stegophiura nodosa* (Lütken)

Station 20g. Port Clarence, Alaska; 2-3 fathoms; sandy grey mud with algæ (thread algæ, *Laminaria*, etc.); August 4, 1913.

Twelve specimens, of which the largest has the disc 10 mm. in diameter and the arms 25 mm. long, and the smallest has the disc 3 mm. in diameter and the arms 5.5 mm. long.

Mr. Johansen records that in life these were red dorsally.

Station 23. Northeast of Icy cape, Alaska (70° 24' N., 161° 25' W.); 9-10 fathoms; mud and pebbles; August 19, 1913.

Four specimens, of which the largest is 10 mm. across the disc, with arms 16 mm. long.

Station 41c. Outer harbour at Bernard harbour, Northwest Territories; 3-8 fathoms; grey mud with *Laminaria* and *Delesseria*; July 28, 1915.

Ten specimens; the largest has the disc 9 mm. in diameter and the arms 19 mm. long, and the smallest has the disc 1.7 mm. in diameter and the arms 2.6 mm. long.

Mr. Johansen states that in life these were rose colour, darkest dorsally, with the dorsal surface of the disc purplish.

#### *Ophiozea robusta* (Ayres)

Station 43c. West of Cockburn point, Dolphin and Union strait, Northwest Territories; 20-30 metres; grey mud, with many stones and algæ (*Laminaria*, *Delesseria*, and *Lithothamnion*); September 14, 1915.

Ten specimens, of which the largest has the disc 11 mm. in diameter; another has the disc 10 mm. in diameter and the arms 41 mm. long.

These vary much in colour, some being as dark, with as strongly contrasting white markings, as any from Kamchatka (*maculata* of Ludwig), while others are an almost uniform brownish grey.

Mr. Johansen writes that in life these showed a faint to strong contrast of black and grey spots and bands, and that the colours are well preserved in alcohol.

#### *Ophiocten sericeum* (Forbes)

Station 43a. Off Cockburn point, Dolphin and Union strait; about 50 fathoms; sandy mud with pebbles, and no algæ; September 13, 1915.



Sixteen hundred and three specimens, all of which are small, not exceeding 9.5 mm. in diameter of disc.

Station 43b. Off Stapylton bay, Dolphin and Union strait; 25-30 fathoms; sandy grey mud with a few pebbles, and no algæ; September 14, 1915.

One hundred and twelve specimens, of which the largest has the disc 15 mm. in diameter. Mr. Johansen writes that the colour in life varied from yellow brown to rose and dark grey-violet, the radial shields standing out from the surrounding portions of the disc through their more strongly red colouration.

Station 43c. West of Cockburn point, Dolphin and Union strait, Northwest Territories; 20-30 metres; grey mud, with many stones and algæ (*Laminaria*, *Delesseria* and *Lithothamnion*); September 14, 1915.

Four specimens of which the largest has the disc 12 mm. in diameter and the arms 38 mm. long.

#### Order GNATHOPHIURIDA.

#### Family AMPHIURIDÆ.

#### *Amphiodia craterodmeta* H. L. Clark.

Station 20g. Port Clarence, Alaska; 2-3 fathoms; sandy grey mud, with algæ (thread algæ, *Laminaria*, etc.); August 4, 1913.

Five specimens, of which the largest has the disc 5 mm. in diameter and the arms 19 mm. long, and the smallest has the disc 2 mm. in diameter.

#### Class ASTEROIDEA.

#### Order PHANEROZONIA.

#### Family PORCELLANASTERIDÆ.

#### Subfamily CTENODISCINÆ.

#### *Ctenodiscus crispatus* (Retzius)

Station 43a. Off Cockburn point, Dolphin and Union strait; about 50 fathoms; sandy mud with pebbles, and no algæ; September 13, 1915.

One specimen;  $R=35$  mm.,  $r=15$  mm.; the rays are slightly narrower than usual. In life, according to Mr. Johansen, the colour was a uniform greyish yellow brown.

#### Order SPINULOSA.

#### Family SOLASTERIDÆ.

#### *Crossaster papposus* (Linné)

Station 43c. West of Cockburn point, Dolphin and Union strait, Northwest Territories; 20-30 metres; grey mud with many stones and algæ (*Laminaria*, *Delesseria*, and *Lithothamnion*); September 14, 1915.

One specimen;  $R=60$  mm.,  $r=28$  mm. Mr. Johansen notes that in life the colour was dorsally bright red.

## Order FORCIPULATA.

## Family ASTERIIDÆ.

## Subfamily ASTERIINÆ.

**Urasterias linkii** (Müller and Troschel)

Station 43b. Off Stapylton bay, Dolphin and Union strait; 25-30 fathoms; sandy grey mud, with a few pebbles, and no algæ; September 14, 1915.

Twelve specimens, of which the largest measures  $R=72$  mm.,  $r=8$  mm., and the smallest  $R=6$  mm.,  $r=1.5$  mm. The colour in life, as recorded by Mr. Johansen, was dorsally white or pale transparent rose with the violet pyloric cæca showing through laterally, the spines and clusters of pedicellariæ and the ventral surface white.

**Asterias polythela** Verrill.

Station 20g. Port Clarence, Alaska; 2-3 fathoms; sandy grey mud, with algæ (thread algæ, *Laminaria*, etc.); August 4, 1913.

Three specimens, of which the largest measures  $R=90$  mm.,  $r=16$  mm.

**Asterias acervata borealis** Perrier.

Station 22. North of the mouth of the Kukpowruk river, Alaska ( $69^{\circ} 35'$  N.,  $163^{\circ} 27'$  W.); 11-12 fathoms; rock and sand, with algæ; August 17, 1913.

One specimen;  $R=100$  mm.,  $r=23$  mm.

**Asterias anomala** (Verrill)

Station 20g. Port Clarence, Alaska; 2-3 fathoms; sandy grey mud, with algæ (thread algæ, *Laminaria*, etc.); August 4, 1913.

One specimen, measuring  $R=46$  mm.,  $r=12$  mm.

The genus *Allasterias*, in which this species was originally described, is not tenable. The character relied upon to separate it from *Asterias*, restricted, is one of the most striking features of *Asterias rubens* and all of its close relatives.

**Asterias nortonensis** (Verrill)

Station 20 b and c. Grantley harbour, Alaska; 2-3 fathoms; sandy mud with algæ; July 30, 1913.

Twenty-seven specimens, all of approximately the same size. The largest measures  $R=94$  mm.,  $r=23$  mm.

**Ctenasterias cribraria** (Stimpson)

Station 37b. Inner harbour at Bernard harbour, Northwest Territories; 2-3 fathoms; sandy mud, with many algæ (*Laminaria*, etc.); August 25, 1914.

Five specimens, of which the largest measures  $R=34$  mm.,  $r=8$  mm.

Station 41. Outer harbour at Bernard harbour, Northwest Territories; about 5 fathoms; sandy mud and *Laminaria*; July 20, 1915.

Fourteen specimens, the largest measuring  $R=15$  mm.,  $r=3.5$  mm.

Station 43c. West of Cockburn point, Dolphin and Union strait, Northwest Territories; 20-30 metres; grey mud with many stones and algæ. (*Laminaria*, *Delesseria* and *Lithothamnion*); September 11, 1915.

One specimen;  $R=13$  mm.,  $r=2.5$  mm.

**Stenasterias macropora** Verrill

Station 20g. Port Clarence, Alaska; 2-3 fathoms; sandy grey mud, with algæ (thread algæ, *Laminaria*, etc.); August 4, 1913.

One specimen, measuring R=62 mm., r=10 mm.

**Leptasterias arctica** (Murdoch)

Station 22. North of the mouth of the Kukpowruk river, Alaska (69° 35' N., 163° 27' W.); 11-12 fathoms; rock and sand, with algæ; August 17, 1913.

Two specimens, of which the larger measures R=15 mm., r=3.5 mm.

Station 43c. West of Cockburn point, Dolphin and Union strait, Northwest Territories; 20-30 metres; grey mud with many stones and algæ (*Laminaria*, *Delesseria* and *Lithothamnion*); September 14, 1915.

Two specimens; one measures R=12 mm., r=3 mm., the other R=11 mm., r=3 mm.

**Leptasterias epichlora** (Brandt)

Station 20g. Port Clarence, Alaska; 2-3 fathoms; sandy grey mud, with algæ (thread algæ, *Laminaria*, etc.); August 4, 1913.

Twenty-four specimens, all with five rays; the largest measures R=19 mm., r=5 mm.

**Leptasterias? dispar** Verrill

Station 43c. West of Cockburn point, Dolphin and Union strait, Northwest Territories; 20-30 metres; grey mud with many stones and algæ (*Laminaria*, *Delesseria* and *Lithothamnion*); September 14, 1915.

One specimen; R=20 mm., r=5 mm.

**?Leptasterias**, sp.

Station 23. Northeast of Icy cape, Alaska (70° 24' N., 161° 25' W.); 9-10 fathoms; mud and pebbles; August 19, 1913.

One specimen.

## THE ASSOCIATION OF SPECIES.

Station 16c. Off Kuskokwim bay, Alaska (59° 24' N., 165° 11' W.); 12½-13 fathoms; black sand; July 5, 1913.

*Echinarachnius parma* (dead only)

Station 20 b and c. Grantley harbour, Alaska; 2-3 fathoms; sandy mud, with algæ; July 30, 1913.

*Strongylocentrotus dröbachiensis*

*Asterias nortonensis*

Station 20g. Port Clarence, Alaska; 2-3 fathoms; sandy grey mud, with algæ (thread algæ, *Laminaria*, etc.); August 4, 1913.

*Strongylocentrotus dröbachiensis*

*Asterias puythulu*

*Stegophiura nodosa*

*Asterias anomala*

*Amphiodia craterodonta*

*Stenasterias macropora*

*Leptasterias epichlora*

Station 20m. Beach at Port Clarence, Alaska; August, 1913.

*Strongylocentrotus dröbachiensis*

Station 22. North of the mouth of the Kukpowruk river, Alaska ( $69^{\circ} 35' N.$ ,  $163^{\circ} 27' W.$ ); 11-12 fathoms; rock and sand, with algæ; August 17, 1913.

*Asterias acervata borealis*

*Leptasterias arctica*

Station 23. Northeast of Icy cape, Alaska ( $70^{\circ} 24' N.$ ,  $161^{\circ} 25' W.$ ); 9-10 fathoms; mud and pebbles; August 19, 1913.

*Stegophiura nodosa*

(?) *Leptasterias*, sp.

Station 37b. Inner harbour at Bernard harbour, Northwest Territories; 2-3 fathoms; sandy mud, with many algæ (*Laminaria*, etc.); August 25, 1914.

*Ctenasterias cribraria*

Station 37c. Inner harbour at Bernard harbour, Northwest Territories; about 2 fathoms; sandy mud, with algæ; September 1, 1914.

*Myriotrochus rinkii*

Station 37p. Beach at Bernard harbour, Northwest Territories; October, 1914.

*Strongylocentrotus dröbachiensis*

Station 41. Outer harbour, Bernard harbour, Northwest Territories; 10 metres; sandy mud, with *Laminaria* and *Delesseria*; July 20, 1915.

*Strongylocentrotus dröbachiensis*

*Myriotrochus rinkii*

*Ctenasterias cribraria*

Station 41c. Outer harbour at Bernard harbour, Northwest Territories; 3-8 fathoms; grey mud, with *Laminaria* and *Delesseria*; July 28, 1915.

*Myriotrochus rinkii*

*Stegophiura nodosa*

Station 43a. Off Cockburn point, Dolphin and Union strait; about 50 fathoms; sandy mud, with pebbles, and no algæ; September 13, 1915.

*Myriotrochus rinkii*

*Ophiocten sericeum*

*Ctenodiscus crispatus*

Station 43b. Off Stapylton bay, Dolphin and Union strait; 25-30 fathoms; sandy grey mud, with a few pebbles, and no algæ. September 14, 1915.

*Ophiocten sericeum*

*Urasterias linkii*

Station 43c. West of Cockburn point, Dolphin and Union strait, Northwest Territories; 20-30 metres; grey mud, with many stones and algae (*Laminaria*, *Delesseria* and *Lithothamnion*); September 14, 1915.

*Strongylocentrotus drobachiensis*

*Ophiozta robusta*

*Ophiocten sericeum*

*Crossaster papposus*

*Otenasterias cribraria*

*Leptasterias arctica*

*Leptasterias* (?) *dispar*

Station 44c. Beach at cape Barrow, Coronation gulf, Northwest Territories; August 3, 1915. J. J. O'Neill collector.

*Strongylocentrotus drobachiensis*

Station 44c. Kannuyuk island, Bathurst inlet, Coronation gulf, Northwest Territories; 1 fathom; September 2, 1915. R. M. Anderson, collector.

*Strongylocentrotus drobachiensis*

#### ADDENDA.

The following Echinoderms were collected by the Northern Party of the Canadian Arctic Expedition and received in Ottawa after the above report had been written:

#### ***Strongylocentrotus drobachiensis* (O. F. Müller).**

Stations 63c, d. Walker bay, Prince of Wales strait, Victoria island. J. Hadley, October 2, 1916. 15 specimens. Identified by Austin H. Clark.

#### ***Psolus phantapus* (Strussenfeldt) Jäger.**

Station 63a. Walker bay, Prince of Wales strait, Victoria island. J. Hadley, July 30, 1917. 1 specimen. Identified by Hubert Lyman Clark.

### **Additional data for the Report on Echinoderms of the Canadian Arctic Expedition, based upon specimens from the "Neptune" and other Eastern Arctic Expeditions.**

By A. H. CLARK.

#### ECHINOIDEA.

#### ***Strongylocentrotus drobachiensis* (O. F. Müller).**

Port Leopold, North Somerset, Northwest Territories; *Neptune* Expedition, August 17, 1904. 3 specimens.

Richmond gulf, east side of Hudson bay (ca. 56° lat. N.); 15-30 fathoms. A. P. Low, June, 1899. 2 specimens.

Near mouth of Povungnituk river, east side of Hudson bay (ca. 60° lat. N.); 5-6 fathoms. A. P. Low, August, 1898. 2 specimens.

Northwest side of Hudson bay, Northwest Territories; beach. G. Comer, 1907-09. 2 medium-sized specimens.

Winter harbour, Melville island, Northwest Territories; beach. Arctic Expedition, July, 1900. 1 small specimen.

#### HOLOTHUROIDEA.

##### **Lophothuria fabricii** (Düben and Koren).

Port Burwell, Ungava; *Neptune* Expedition, July 28, 1904. 8 specimens.

Near mouth of Povungnituk river, east side of Hudson bay; 5-6 fathoms. A. P. Low, August, 1898. 1 specimen.

King George sound, Hudson strait, Ungava; 40 fathoms. *Diana* Expedition, Low and Wakeham, September 9, 1897. 1 specimen.

##### **Cucumaria frondosa** (Gunnerus)

North Somerset, Northwest Territories; *Neptune* Expedition, August, 1904. 10 specimens.

Near mouth of Povungnituk river, east side of Hudson bay; 5-6 fathoms. A. P. Low, August, 1898. 2 specimens.

##### **Cucumaria calcigera** (Stimpson) Selenka.

Richmond gulf, east side of Hudson bay; 15-30 fathoms. A. P. Low, June, 1899. 1 specimen. Identified by H. L. Clark.

#### ASTEROIDEA.

##### **Crossaster papposus** (Linnaeus).

Port Leopold, North Somerset, Northwest Territories; *Neptune* Expedition, August 17, 1904. 2 specimens.

Fort Churchill, Hudson bay, "after a gale thrown up on the beach; not seen before by natives." J. M. Macoun; September, 1910. 1 specimen.

##### **Solaster endeca** (Linnaeus)

Port Leopold, North Somerset, Northwest Territories; *Neptune* Expedition; August 17, 1904. 1 specimen.

Hudson strait, July or August, 1897. *Diana* Expedition. 1 specimen.

##### **Urasterias linckii** (Müller and Troschel).

Richmond gulf, east side of Hudson bay; 15-30 fathoms. A. P. Low, June, 1899. 1 specimen.

##### **Asterias acervata borealis** (Perrier).

Port Burwell, Ungava, Dr. Robert Bell. 1 specimen.

##### **Asterias** sp. (young).

Nottingham island, Hudson strait. J. McKenzie, 1886. 1 specimen.

##### **Stephanasterias albula** (Stimpson).

*Neptune* Expedition. 4 specimens.

Port Burwell, Ungava. *Neptune* Expedition, July 28, 1904. Dredged. 1 specimen.

## OPHIUROIDEA.

**Stegophiura nodosa** (Lütken).

Port Burwell, Ungava; *Neptune* Expedition; July 28, 1904. Dredged. 4 specimens.

**Ophiozea robusta** (Ayres).

Port Burwell, Ungava; *Neptune* Expedition, July 28, 1904. Dredged. 15 specimens.

Nottingham island, Hudson strait. J. McKenzie, 1886. 1 medium-sized specimen.

**Ophiura sarsii** (Lütken).

Port Burwell, Ungava; *Neptune* Expedition, July 28, 1904. Dredged. 21 specimens.

Near Fort Churchill, Hudson bay, 20 miles off river in 30 fathoms; bottom clay with gravel; *Diana* Expedition, September 2, 1897. Disc, 21 mm. in diameter. 1 specimen.

Port Burwell, Ungava; 15 fathoms. Dr. Robert Bell, August, 1884. 14 specimens.

Richmond gulf, east side of Hudson bay; 15-30 fathoms. A. P. Low, June, 1899. 1 specimen.

**Ophiocten sericeum** (Forbes).

Winter harbour, Melville island, Northwest Territories; *Arctic* Expedition; May, 1909. "Attached to ship's anchor, in 7 fathoms." 8 specimens.

Richmond gulf, east side of Hudson bay; 15-30 fathoms. A. P. Low, June, 1899. 8 specimens.

**Ophiopholis aculeata** (Linnaeus).

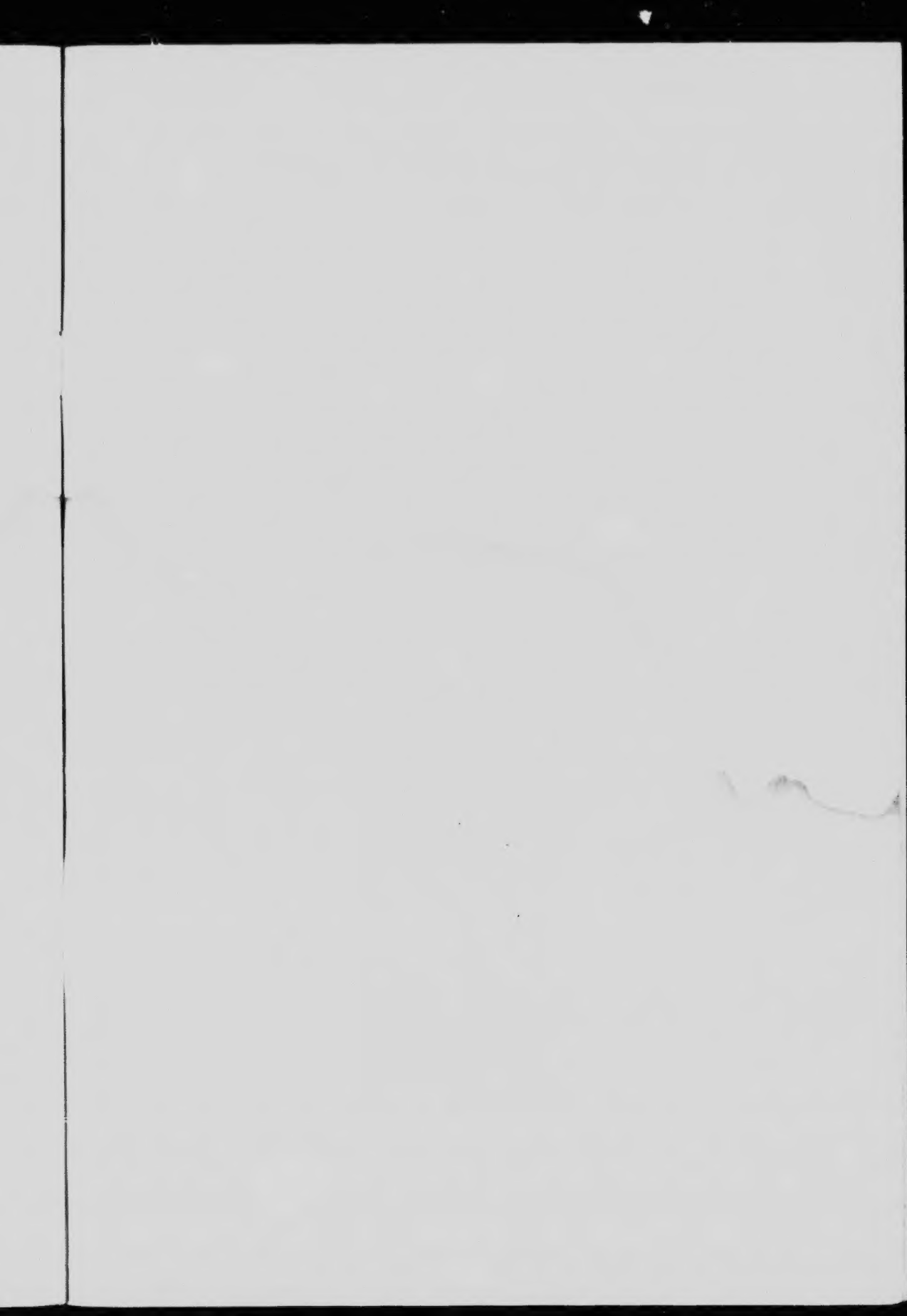
Southampton island, Hudson bay; south shore harbour; Captain George Comer, 1907-09. 3 specimens.

Richmond gulf, east side of Hudson bay; 15-30 fathoms. A. P. Low, June, 1899. 1 specimen.

King George sound, Hudson strait, Ungava; 40 fathoms. *Diana* Expedition, Low and Wakeham, September 9, 1897. 1 small specimen.







# Report of the Canadian Arctic Expedition, 1913-18.

## CONTENTS OF PARTS IN PREPARATION.

### Volume I: General Introduction, Narrative, Etc.

Part A: Northern Party, 1913-18.

Part B: Southern Party, 1913-16. By Rudolph Martin Anderson. (*In preparation*).

### Volume II: Mammals and Birds.

Part A: Mammals. By Rudolph Martin Anderson. (*In preparation*).

Part B: Birds. By R. M. Anderson and P. A. Favourer. (*In preparation*).

### Volume III: Insects.

Part A: Collembola. By Justus W. Folsom. (*Issued*).

Part B: Neuropteroid Insects. By Nathan Banks. (*Issued*).

Part C: Diptera. By Chas. W. Alexander, Harrison G. Dyar, and J. R. McHugh. (*Issued*).

Part D: Mallophaga and Anoplura. By A. W. Baker, G. F. Ferris, and G. H. F. Nuttall. (*Issued*).

Part E: Coleoptera. By J. M. Swaine, H. C. Fall, C. W. Long, and J. D. Sherman, Jr. (*Issued*).

Part F: Hemiptera. By E. P. Van Duzee. (*Issued*).

Part G: Hymenoptera and Plant Galls. By Alex. D. MacGillivray, Charles T. Brues, F. W. L. Stulen, and E. Porter Felt. (*Issued*).

Part H: Spiders, Mites, and Myriapoda. By J. H. Emerton, Nathan Banks, and Ralph V. Chamberlin. (*Issued*).

Part I: Lepidoptera. By Arthur Gibson. (*Issued*).

Part J: Orthoptera. By E. M. Walker.

Part K: General Observations on Insect Life in the Arctic. By Fritz Johansen. (*In preparation*).

### Volume IV: Botany.

Part A: Freshwater Algae and Freshwater Diatoms. By Charles W. Lowe. (*In preparation*).

Part B: Marine Algae. By F. Collins. (*In preparation*).

Part C: Fungi. By John Dearness. (*In preparation*).

Part D: Lichens. By K. I. Merrill. (*In preparation*).

Part E: Mosses. By R. S. Williams. (*In preparation*).

### Volume V: Botany.

Part A: Flowering Plants and Ferns. By James M. Macoun, and others. (*In preparation*).

Part B: General Notes on Arctic Vegetation. By Fritz Johansen. (*In preparation*).

### Volume VI: Fishes, Tunicates, Etc.

Part A: Fishes. By F. Johansen. (*In preparation*).

Part B: Ascidians, etc. By A. G. Huntsman. (*In preparation*).

### Volume VII: Crustacea.

Part A: Decapod Crustaceans. By Mary J. Rathbun. (*Issued*).

Part B: Schizopod Crustaceans. By Waldo L. Schmitt. (*Issued*).

Part C: Cumacea. By W. T. Galman. (*In preparation*).

Part D: Isopoda. By Miss P. L. Boone. (*In preparation*).

Part E: Amphipoda. By Clarence R. Shoemaker. (*In press*).

Part F: Pantopoda. By Leon J. Cole. (*In preparation*).

Part G: Euphyllipoda. By F. Johansen. (*In preparation*).

Part H: Cladocera. By Chancey J. G. (*In press*).

Part I: Ostracoda. By R. W. Sharpe. (*In preparation*).

Part J: Freshwater Copepoda. By C. Dwight Marsh. (*In press*).

Part K: Marine Copepoda. By A. Willey. (*In press*).

Part L: Parasitic Copepoda. By Chas. B. Wilson. (*In press*).

Part M: Cirripedia. By H. A. Pilsbry. (*In preparation*).

### Volume VIII: Molluscs, Echinoderms, Coelenterates, Etc.

Part A: Mollusks, Recent and Pleistocene. By Wm. H. Dall. (*Issued*).

Part B: Cephalopoda and Pteropoda. By S. S. Berry and W. F. Clapp. (*In preparation*).

Part C: Echinoderms. By Austin H. Clark. (*In press*).

Part D: Bryozoa. By R. C. Osburn. (*In preparation*).

Part E: Rotatoria. By H. K. Harring. (*In preparation*).

Part F: Chaetognaths. By A. G. Huntsman. (*In preparation*).

Part H: Medusae and Ctenophora. By H. B. Bigelow. (*In press*).

Part I: Hydroids. By McLean Fraser. (*In preparation*).

(Porifera, Actinozoa, and Alcyonaria: material small in amount, and no specialists selected).

### Volume IX: Annelids, Parasitic Worms, Protozoans, Etc.

Part A: Oligochaeta. By Frank Smith and Paul S. Welch. (*Issued*).

Part B: Polychaeta. By Ralph V. Chamberlin. (*In press*).

Part C: Hirudinea. By J. P. Moore. (*In preparation*).

Part D: Gephyrea. By Ralph V. Chamberlin. (*In press*).

Part E: Acanthocephala. By H. J. Van Cleave. (*In press*).

Part F: Nematoda. By N. A. Cobb. (*In preparation*).

Part G: Trematoda. By A. R. Cooper. (*In preparation*).

Part H: Cestoda. By A. R. Cooper. (*In preparation*).

Part I: Turbellaria. By A. Hassell. (*In preparation*).

Part J: Gordiacea.

Part K: Sporozoa. By J. W. Mavor. (*In preparation*).

Part M: Foraminifera. By J. A. Cushman. (*Issued*).

### Volume X: Plankton, Hydrography, Tides, Etc.

Part A: Plankton. Marine Diatoms.

Part B: Tidal Observations. By W. Bell Dawson. (*In press*).

Hydrography.